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John C. Sexton

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EXAMINER

HUSSAIN, TAUQIR

ART UNIT

PAPER NUMBER

2152

MAIL DATE

DELIVERY MODE

09/17/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/674,322	<b>Applicant(s)</b> SEXTON ET AL.	
	<b>Examiner</b> TAUQIR HUSSAIN	<b>Art Unit</b> 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-35,37-40 and 42-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-35,37-40 and 42-44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/07/2008 has been entered.

### ***Response to Amendment***

2. This office action is in response to amendment /reconsideration filed on 07/07/2008, the amendment/reconsideration has been considered. Claims 36 and 41 have been canceled, claims 43 and 44 have been newly added and therefore, claims 1-35, 37-40 and 42-44 are pending for examination, the rejection cited as stated below.

### ***Response to Arguments***

3. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Objections***

4. Claim 43 recite, "Discovering a topology of notes in the SAN" to which examiner considers and "nodes" for examining purposes.

5. The text of those sections of Title 35 U.S.C 103(a) is not included in this action can be found in a prior Office Action.

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6. Claims 1-13, 17-30 and 34-37, 43-44 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Weber ET al. (Pub. No.: US 2006/0173992 A1), hereinafter "Weber" in view of Akagawa et al. (Pub. No.: 2004/0210791 A1), hereinafter "Akagawa" and further in view of Cooper et al. (Pub. No.: US 2004/0042470 A1), hereinafter "Cooper".

7. Weber, Akagawa and Manghirmalani have been cited as prior arts in the last office action. The teachings that applicable are respectfully maintained and incorporated by reference as set forth in the last office action.

8. As to claims 1,18,35 and 37, Weber discloses, the invention substantially, including, each status event having a corresponding event category and severity value (Weber, Abstract, where anomalies is a category and Fig.10, Element-56c, [0195], where events has severity indicator/value);

displaying a status array having a plurality of chart entries (Weber, Fig.29, [0195]), each chart entry corresponding to alert messages of a particular event category (Weber, Fig.29, [0195] where events are listed corresponding to the type of alert messages) and each chart entry having a node entry for each node having status attributable to the alert messages (Weber, Fig.29, [0195], where source is the node entry and action taken is status attributable to alert messages/anomalies as anomalies are any abnormal event occur in the network creates a log which can be interpret as alert messages); and

displaying, within at least one chart entry (Weber, Fig.29), node entries having a status event associated with the event category for that chart entry (Weber, Fig.29, where node have corresponding event category).

Weber however, is silent on disclosing the invention in SAN. Akagawa however discloses the invention in SAN environment.

Therefore, it would have been obvious to one ordinary skilled in the art at the time the invention was made to combine the teachings of Weber with the teachings of Akagawa in order to provide a system to correctly notify a fault, in case a fault has occurred in the volume, by using a host computer which can access the volumes as managed by a management computer that integrally manages a plurality of devices constituting a network.

Weber and Akagawa however are silent on disclosing explicitly, “receiving alert messages corresponding to status events in the network” or “aggregating the alert messages according to event category and severity value to generate a category specific severity ranking of the alert messages” or “the node entries displayed in the chart entry according to the severity ranking and each node entry indicative of a severity scale of status for the corresponding effected node”.

Cooper however discloses, receiving alert messages corresponding to status events in the network (Cooper, [0423], where network monitor provides support for setting up alarms on connection by receiving a signal when specific event occur),

aggregating the alert messages according to event category and severity value to generate a category specific severity ranking of the alert messages (Cooper, Fig.22

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and 23, where displayed is a chart entry as element 2202, containing status of the event as Fig.23, element-2301, status, event category as type, the node entries as Fig.23, element-2301, srcIP and severity as Fig.22, element-2202, severity);

the node entries displayed in the chart entry according to the severity ranking (Cooper, Fig.22, element-2202, further clicking on view tab brings all the detailed information as further depicted in Fig.23) and each node entry indicative of a severity scale of status for the corresponding effected node (Cooper, Fig.32, where displayed is a conformance fig with associated values and a chart with severity ranking, counts and overall percentage for particular event and a detail tab which brings up specific details).

Therefore it would have been obvious to one of ordinary skilled in the art at the time the invention was made to combine the teachings of Weber, Akagawa with the teachings of Cooper in order to provide an apparatus for a network monitor internals mechanism, which serves to translate packet data into multiple concurrent streams of encoded network event data, to contribute to enterprise management, reporting, and global mechanisms for aggregating monitors at a centralized aggregation point, and to facilitate rate limiting techniques.

9. As to claim 43, carry similar limitations as claims 1, 18, 35 and 37 above and further limitation from claims 2, 5 and 11 have been incorporated herein and therefore is rejected under for same rationale, additionally, Cooper discloses, discovering a topology of nodes in the SAN (Cooper, Fig.2 and 3, [0161], where topology is described in terms of nodes and policy); storing status events in an event repository (Cooper, [0111], where network events and its dispositions are stored in a database).

10. As to claims 2 and 19, Weber, Akagawa and Cooper discloses the invention substantially as in parent claims 1 and 18, including, accumulating events of each of a plurality of severity levels (Weber, Fig.29, Element-304, where percentage shows the accumulation of events by category), each severity level representing a range of severity values such that a given status event with a given severity value has corresponding severity level when the given severity value of the given status event is within a range of severity values for the corresponding severity level (Weber, Fig.29, element-304, [0125] and [0129] where severity is displayed in %age which means there has to be a certain range/scale to measure the severity in %age for corresponding events, further critical or out of bound severity levels are calculated based on predefined threshold), wherein the severity scale for a node entry is an enumeration of events received for each of the plurality of severity levels within the severity ranking (Weber, Fig.29 and Fig.30, [0195], where displayed on user interface is severity levels, severity ranking and severity values are listed among corresponding events and categories) the severity ranking determined by the severity scale for each node entry, (Weber, Fig.29, element-308, [0197] where top ten nodes are listed based on severity level ranking which is based on statistical measure); and

displaying the enumeration of events received for each node entry within the at least one chart entry containing that node entry (Weber, Fig.29 and Fig.30, [0195] and [0196], where user interface is displayed with all the events with their characterizations), the enumeration displayed in an order according to the severity ranking (Weber, Fig.32, where enumeration is listed according to the severity ranking).

11. As to claims 3 and 20, Weber, Akagawa and Cooper discloses the invention substantially as in parent claims 2 and 19, including, wherein the enumeration is a histogram having a magnitude based on the severity scale and a quantity of events within each severity level within the severity ranking (Weber, Fig.29, [0195], where events listed in element-304 are translated into graph with listed attributes of the events described in parent claims 2 and 19 above).

12. As to claims 4 and 21 are rejected for the same rationale applied to claims 3 and 20 above, further Examiner takes the official notice that histograms can be displayed in many different shapes and colors and is well know technique in the art.

13. As to claims 5 and 22, Weber, Akagawa and Cooper discloses the invention substantially as in parent claims 1 and 18, including, further including discovering a topology of nodes (Weber, [0004], where monitoring a network with established topology means discovering a topology of nodes), wherein the alert messages correspond to status events for each of a plurality of selected nodes in a selection tree (Weber, Fig.30, [0198], where node statistics are displayed when user clicks on the line item in the user interface area of listed items) the selection tree indicative of the nodes (Weber, Fig.29, [0195]). Weber however is silent on disclosing the invention in SAN. Akagawa however, discloses the instant invention concept in SAN environment and it will be an obvious variation to combine the teachings of Weber with the teachings of Akagawa.



14. As to claims 6 and 23, Weber, Akagawa and Cooper discloses the invention substantially as in parent claims 1 and 18, including, further including filtering the status events to compute a subset of elected events (Weber, Fig.12, [0083], where filtering is shown based on specific event), wherein the received events correspond to elected events determined in response to predetermined filtering logic at the agents processing the elected events (Weber, Fig.12, [0084], where predetermined logic is defined for filtering).

15. As to claims 7 and 24, Weber, Akagawa and Cooper discloses the invention substantially as in parent claims 1 and 18, including, wherein each chart entry has a magnitude axis (Weber, Fig.29, [0195], where element-304 can be mapped into graph or histogram as depicted in the drawing which has x-axis and y-axis being magnitude), the magnitude axis indicative of a relative range of the quantity of status events within each of the severity levels corresponding to a plurality of node entries reflected in the chart entry (Weber, Fig.29, [0195], where Y-axis shows the severity range of anomalies and X-axis shows the quantity/frequency of events).

16. As to claims 8 and 25, Weber, Akagawa and Cooper discloses the invention substantially as in parent claims 1 and 18, including, wherein each chart entry has a manageable entity axis (Weber, Fig.15, Nodes A, B and C can represent manageable entity axis), the manageable entity axis arranged, for each node, according to increasing severity scale denoting the severity ranking for each node included in the

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chart entry (Weber, Fig.30, [0198], where anomalies detected column represents the node and normal column represents the severity level which can also be interpret as ranking), and further comprising computing the severity scale for each node according to a predetermined severity metric (Weber, [0084], where calculation is made from predetermined parameters to determine the severity).

17. As to claims 9-10 and 26-27, Weber, Akagawa and Cooper discloses the invention substantially as in parent claims 1 and 18, including, wherein the severity level corresponds to a threshold value, the threshold value identifying triggering of an event having the corresponding severity level (Weber, Fig.29, [0195], where element-304 list the severity in percentage along with indication of low, medium and high which means there has to be a threshold set up for each indication to occur and this step can be repeated further within the group of anomalies).

18. As to claims 11 and 28, Weber, Akagawa and Cooper discloses the invention substantially as in parent claims 10 and 27, including, further comprising processing and propagating the threshold values to remote agents (Weber, Abstract, where collecting data and statistical information and aggregating of anomalies obviously means there has to be remote agents and threshold values have been set for detection of events between host and remote computers on the network), the remote agents operable to analyze nodes and determine when a particular metric satisfying a triggering threshold is attained and generate the corresponding event (Weber, Abstract, again same

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rationale can be given as host obviously has agent collecting information on the network for any abnormalities or in case of any anomalies).

19. As to claims 12 and 29, Weber, Akagawa and Cooper discloses the invention substantially as in parent claims 1 and 18, including, wherein the nodes further comprise manageable entities (Weber, Fig.15), the manageable entities responsive to the server, and further including storage entities, connectivity entities, and database entities (Weber, Fig.2, [0051], where server obviously will have storage, connectivity entities could be switches).

20. As to claims 13 and 30, Weber, Akagawa and Cooper discloses the invention substantially as in parent claims 1 and 18, including, further comprising selectively suppressing events of a particular category and severity (Weber, [0199], where selected events type means selection can be made by category or events).

21. As to claims 17 and 34, Weber, Akagawa and Cooper discloses the invention substantially as in parent claims 1 and 18, including, receiving a user input corresponding to selection of at least one node entry from among the node entries displayed in the status array (Weber, Fig.29, [0198], where use can click on the line item in the overview graphical user interface);

displaying an expanded menu of status options for the selected entry (Weber, Fig.29, [0198], where element-306 and 308 are expanded view); and

receiving a response to the menus of status options and displaying an expanded status report corresponding to the expanded menu (Weber, Fig.33, [0210]).

22. Claims 38-40 and 42, carry similar limitations as the parent claims 1, 18, 35, 37 and 43, therefore are rejected under for same rationale.

23. As to claim 44, Weber, Akagawa and Cooper discloses the invention substantially as in parent claim 43 above, including, the chart entries in the status array are further subdivided into chart entries directed to manageable entity health, manageable entity performance, and storage system capacity (Cooper, Fig. 20 and Fig.21, [0489], where disclosed is a high level reporting of the health of the monitored network and constructing a chart from given value is obvious and well know in the art, Further Fig.20 displays the subdivided chart for network events which can be modified and customized as per requirement).

24. Claims 14-15, 31-32 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber, Akagawa and Cooper in view of Manghirmalani et al (Patent Number: 5,819,028), hereinafter "Manghirmalani".

25. As to claims 14 and 31, Weber, Akagawa and Cooper discloses the invention substantially as in parent claims 1 and 18, including, wherein the chart entries in the status array are further subdivided into chart entries directed to manageable entity health (Weber, Fig. 29, [0195], where over all network performance monitor can be interpret as manageable entity health). Weber, Akagawa and Cooper are silent on disclosing explicitly, displaying storage capacity in the chart. However, Manghirmalani discloses, a system, which display network health, load and error (Manghirmalani,

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Fig.13 and 14, Col.5, lines 39-50, where load, error and performance are shown in meter form and histogram as well and it will be obvious variation to represent the storage capacity in the chart form as well).

Therefore, it would have been obvious to one ordinary skilled in the art at the time the invention was made to combine the teachings of Weber and Akagawa with the teachings of Manghirmalani in order to provide a system to monitor and interpret the behavior of network entities or domains in a manner that is specific, yet independent of the network entity.

26. As to claims 15 and 32, Weber, Akagawa, Cooper and Manghirmalani discloses the invention substantially as in parent claims 1 and 18, including, receiving a selection of at least one node in a hierarchical arrangement of nodes (Manghirmalani, Fig.2, Col.5, lines 51-58, where corporate, field office 1,2 and 3 are hierarchical); and wherein receiving, aggregating, displaying a status array, and displaying, within at least one chart entry, node entries (Weber, Fig.29, [0195], where all feature are listed in tabular and chart forms) are performed in relation to the selected at least one node in order to display the simultaneous status of nodes in a network (Weber, Fig.29, [0198], where at least one node is displayed in the chart).

27. As to claim 44, Weber, Akagawa, Cooper and Manghirmalani discloses the invention substantially as in parent claim 43 above, including, the chart entries in the status array are further subdivided into chart entries directed to manageable entity health, manageable entity performance, and storage system capacity (Manghirmalani,

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Fig. 13 and 14, where subdivided chart for network health, load, error and net Doctor is displayed, which comprehensively suggest that these charts can be modified as per admin preferences or can be customized in many ways).

28. Claims 16 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weber, Akagawa and Cooper in view of Beshai et al (Pub. No.: US 2004/0037558 A1), hereinafter "Beshai".

29. As to claims 16 and 33, Weber, Akagawa and Cooper discloses the invention substantially, including,

i) a general alert chart entry displaying alert status of managed entities in the network (Weber, Fig.29, [0195]);

ii) a storage chart entry indicating alert status of managed storage entities in the network (Manghirmalani, Fig.13 and 14, Col.5, lines 39-50, where load, error and performance are shown in meter form and histogram as well and it will be obvious variation to represent the storage capacity in the chart form as well);

iii) a host chart entry indicating alert status of managed host entities in the network (Cooper, Fig.20, [0487], where dashboard-20000 is kept up to date with current monitoring information from the monitored network); and

iv) a connectivity chart entry indicating alert status of managed connectivity entities in the network (Cooper, Fig.23, where connectivity status and severity conditions are disclosed). Weber, Akagawa and Cooper however are silent on disclosing the status array in N by M matrix of the plurality of chart entries.

Beshai however, discloses arrays and matrices (Beshai, [0102], where state arrays and matrices are used for path allocation in network environment.

Therefore, it would have been obvious to one ordinary skilled in the art at the time the invention was made to combine the teachings of Weber, Akagawa and Cooper with the teachings of Beshai in order to provide a node structure that permits scalability and can employ time-sharing techniques.

**Examiner's Note:** Examiner has cited particular columns and line numbers in the references, as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claims, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in its entirety as potentially teaching of all or part of the claimed invention, as well as the context.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAUQIR HUSSAIN whose telephone number is (571)270-1247. The examiner can normally be reached on 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571 272 3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/T. H./

Examiner, Art Unit 2152

/Dohm Chankong/

Examiner, Art Unit 2152